

Approaches to Valuing Cost Sharing Buy-Ins

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Buy-Ins: Introduction

- Buy-in payments are often associated with a cost sharing arrangement (CSA) transaction. See § 1.482-7 for regulations regarding cost sharing arrangements between related parties.
- Participants should receive arm's length compensation (a "buy-in") for "pre-existing" intangibles that are contributed to a CSA.
- The buy-in should be treated as an intercompany transfer of intangible property and valued according to § 1.482-7(g)(2).

Valuing Buy-Ins: Analytical Concepts

- Isolating the Value of the Pre-Existing Intangibles
 - How do you draw the line between pre-existing intangibles and the covered intangibles jointly developed by the participants?
 - This may be less of a problem with discrete forms of intangible property (pharmaceutical R&D), but it can be significant problem when intangible property has continuous qualities or when improvements are incremental (software, some electronics).
 - Pre-existing intangibles may reduce the cost of developing the covered intangibles. A core technology may enable the company to “stand on the shoulders of giants.”
 - Pre-existing intangibles may also decrease the time needed to develop the covered intangibles. Being first, or early, to market may convey substantial benefits.
 - In general, pre-existing intangibles may allow resources to be redeployed to other uses.

Valuing Buy-Ins: Analytical Concepts

- Nature of the Intangible
 - Revenue Enhancing vs. Cost Reducing
 - Discrete vs. Continuous Generations
- Cost Capitalization
 - Can be useful in determining a “stock” value of previous intangible expenditures.
 - The stock values can then be used as either a proxy asset value (see Capitalized Cost approach below) or as a means of splitting profits in a residual profit split model.

Valuing Buy-Ins: Analytical Concepts

- Useful Economic Life
 - The definition of useful economic life has been a topic of disagreement between the IRS and taxpayers.
 - A shorter useful economic life will result in a smaller total buy-in payment.
 - How long could the pre-existing intangibles generate intangible income with additional support?
 - Would the covered intangibles be possible without the pre-existing intangibles?
 - As covered intangibles are exploited (e.g. in products, production processes), to what extent are the pre-existing intangibles used?
 - If the useful economic life can be determined with some accuracy, it can help define the line between pre-existing and covered intangibles.

Valuing Buy-Ins: Analytical Concepts

- Form of Payment
 - Lump sum payment, installments based on lump sum with interest, or running royalty. Some valuation methods naturally produce a lump sum or royalties. It is possible to convert between forms. (See examples under Foregone Profits Method below.) (See FSA 200023014 regarding choice of forms.)
- Cost of Capital
 - Many of the buy-in valuation methods rely on present value calculations. Care must be taken in selecting an appropriate cost of capital.
 - Typical estimates include a firm-specific weighted average cost of capital, a company's hurdle rate if documented, an industry weighted cost of capital, a return on equity or debt, or rates from stock analysts' reports.

Valuing Buy-Ins: Analytical Concepts

- Cost of Capital (Continued)
 - Debt Rate
 - Equity Rate
 - Beta
 - Company's vs. Comparables'
 - Product Line vs. Whole Company
 - Equity Risk Premium
 - Time Period
 - Geometric vs. Arithmetic Averages
 - Survey Data
 - Other Methods (e.g., Supply Side and Demand Side)

Valuing Buy-Ins: Analytical Concepts

- Other Issues
 - Should profits be measured before or after intangible development expenses?
 - If after intangible development expenses, important to distinguish between expenses for current period and amortization of capitalized expenses.
 - Gestation period or Service lag – the time between when an intangible expense is made and when it is put into service.
 - Does the buy-in capture any “opportunity value” associated with the pre-existing intangibles?
 - What type of rights in pre-existing intangibles are conveyed?

Buy-In Valuation Approaches

- The 482 regulations cover the named intangible valuation methods – CUT, Profit Split, and CPM.
- However, often more complicated approaches are used to value buy-ins due to the aforementioned problems.
- The remainder of this presentation focuses on the most common buy-in valuation approaches encountered.
- Each of these methods, however, may be further customized.

Capitalized Cost Method

- If a routine intangible is being valued (e.g., barriers to entry are low and the probability of successfully creating the intangible is very high), a capitalized cost approach may warrant attention.
- This is an extension of a company's "make-or-buy" decision. If risks and other barriers are low, a company will be indifferent between making or buying at the margin since capitalized costs should be consistent with the market price.
- Unlike a total cost method, a capitalized cost approach takes into account a return on intangible investment as well as possible obsolescence.

Capitalized Cost Method

- Costs are capitalized by adding a capital charge to each year's development expenses. A portion may also be subtracted each year for amortization or obsolescence.
- The balance of capitalized costs at a point in time is the "asset" value of the intangible. In a buy-in context, this can then be subject to step two of the two-part valuation approach in 482-7(g)(2).
- This method may not produce a reliable value for risky to develop/replicate intangible assets. The distribution of an intangible's market price should widen in relation to its development costs as risk increases.
- Risk adjusted discounting does not necessarily solve this problem.
- This method would also be less reliable if a company was willing to pay a substantial premium to purchase the intangible today rather than suffer any delays due to internal development.

Capitalized Cost Method

- Advantages
 - Relies on internal historical data rather than external data or projections, and internal historical data may be more readily available.
 - Can serve as a sanity check for other methods.
 - For example, if there are valuable intangibles and the residual profit split method produces a valuation below that of the capitalized cost method then this may be an indication that the RPSM has been misapplied.
- Disadvantages
 - Assumes that cost can be a proxy for value. This assumption is rarely valid for valuing intangibles.

Declining Royalty Method

- Determine initial royalty rate using either CUT or CPM.
- Decline royalty over time by a fixed schedule or the relative shares of intangible stock (expense) values.
- Can leave as a royalty schedule or use projected financials to calculate a lump sum value.
- A quick ramp down of royalties implies a short useful economic life, which implies a smaller buy-in payment.

Declining Royalty Method

- Disadvantages
 - Does not depend upon the participant's actual operating profits.
 - May not accurately account for opportunity value associated with pre-existing intangibles.
 - Comparability of CUTs are diminished if they do not convey rights to exploit intangibles for further development.
 - Sensitive to useful life and amortization assumptions.

Foregone Profits Method

- What the Donor would expect to earn if it did not donate the intangibles

Less:

- What the Donor expects to earn after it donates the intangibles
- Routine profit for foregone routine activities
- *Can also view this from the recipient's perspective*

Foregone Profits

- Regulations (482-4(d))

(d) Unspecified methods -- (1) In general. Methods not specified in paragraphs (a)(1), (2), and (3) of this section may be used to evaluate whether the amount charged in a controlled transaction is arm's length. Any method used under this paragraph (d) must be applied in accordance with the provisions of § 1.482-1. **Consistent with the specified methods, an unspecified method should take into account the general principle that uncontrolled taxpayers evaluate the terms of a transaction by considering the realistic alternatives to that transaction, and only enter into a particular transaction if none of the alternatives is preferable to it. . . . Therefore, in establishing whether a controlled transaction achieved an arm's length result, an unspecified method should provide information on the prices or profits that the controlled taxpayer could have realized by choosing a realistic alternative to the controlled transaction. . . .** (emphasis added)

Foregone Profits

- Regulations (482-4(d))

(2) Example. The following example illustrates an application of the principle of this paragraph (d).

Example. (i) USbond is a U.S. company that licenses to its foreign subsidiary, Eurobond, a proprietary process that permits the manufacture of Longbond, a long-lasting industrial adhesive, at a substantially lower cost than otherwise would be possible. Using the proprietary process, Eurobond manufactures Longbond and sells it to related and unrelated parties for the market price of \$550 per ton. Under the terms of the license agreement, Eurobond pays USbond a royalty of \$100 per ton of Longbond sold. USbond also manufactures and markets Longbond in the United States.

(ii) In evaluating whether the consideration paid for the transfer of the proprietary process to Eurobond was arm's length, the district director may consider, subject to the best method rule of § 1.482-1(c), USbond's alternative of producing and selling Longbond itself. Reasonably reliable estimates indicate that if USbond directly supplied Longbond to the European market, a selling price of \$300 per ton would cover its costs and provide a reasonable profit for its functions, risks and investment of capital associated with the production of Longbond for the European market. Given that the market price of Longbond was \$550 per ton, by licensing the proprietary process to Eurobond, USbond forgoes \$250 per ton of profit over the profit that would be necessary to compensate it for the functions, risks and investment involved in supplying Longbond to the European market itself. Based on these facts, the district director concludes that a royalty of \$100 for the proprietary process is not arm's length.

Foregone Profits Method

- Provides for a fair game, fair gamble by cost-sharing participants (no ex ante windfall for either participant)
- Recipient generally benefits if actual profits exceed expectations.

Foregone Profits Method

- Relies on forecasted data for taxpayers
 - If company may not use forecasts:
 - Stock analysts routinely forecast future profits
 - One can use historical company data, industry projections
 - Need to determine the reasonableness of the forecasts

Foregone Profits Method

- Can use CPM or other benchmark data to calculate routine profits for participants.
- After computing stream of each year's projected foregone intangible profits, can specify buy-in as:
 - Yearly projected foregone profits, payable each year.
 - Royalty rate each year computed as that year's projected foregone profits divided by that year's projected sales.
 - Present value lump sum based on the projected foregone profits.
 - Fixed or declining royalty rate based on present values of projected foregone profits and projected sales.
- The largest component of the buy-in value may be the “terminal value,” which can be extremely sensitive to the cost of capital used (higher cost of capital yields a lower terminal value).

Foregone Profits Method

- Useful Life
 - Reflected in Projected Decline in Intangible Profits Over Time
 - Models may include two, three, or more time stages, each with different characteristics (e.g., different rates for sales growth or R&D growth)
 - Consider profitability assumed in terminal value
 - Reflected in Assumption that Abnormally High Growth Rate Will level Off
 - Compare with economy / industry

Foregone Profits Method

- Advantages
 - This method can better capture the opportunity value from using pre-existing intangibles.
 - Variant on standard valuation methodology used by valuation professionals.
- Disadvantages
 - Requires predicting future results.
 - Sensitive to cost of capital and useful life assumptions.

Profit Split Method

- This may be the most common approach presented by taxpayers.
- Calculate the participant's financial results that include its use of the pre-existing intangible.
- Then remove the routine profit component. Can use a CPM or other benchmark data to extract the participant's routine returns.

Profit Split Method

- The remaining profits can be split between the participants based on various measures of their past and on-going contributions to the development of the pre-existing and covered intangibles. For instance, their respective capitalized or non-capitalized intangible development costs can be used.

Profit Split Method

- Care must be taken to calculate profits attributable only to the pre-existing intangibles.

Profit Split Method: Disadvantages

- Sensitive to useful life, amortization assumptions.
- Using intangible development costs (IDCs) to split profits assumes that all such expenses should have equal weight.
 - But the value of past R&D/IDCs may be proven, whereas the value of future R&D/IDCs is unknown
 - Adjustment may be warranted to correct the equal weighting assumption for R&D/IDCs

Profit Split Method: Disadvantages

- “The reliability of this method could be particularly adversely affected **if capitalized costs of development are used to estimate the value of intangible property because such costs may bear no relation to market value**, calculation of such costs may require allocation of indirect expenses between the relevant business activity and the controlled taxpayer’s other lines of business, and capitalizing costs requires assumptions regarding the **useful life** of intangible property.”
(emphasis added)
(Preamble to Section 482 Regulations)

Profit Split Method: Disadvantages

- Therefore, the reliability of profit split method may decrease if the intangibles being donated are highly valuable compared to capitalized costs but the costs shared intangibles are not.

Profit Split Method: Advantages

- Naturally includes commensurate with income adjustments to the royalty, provided one can reliably split the residual profit.

Acquisition Method

- Types of Acquisitions:
 - Internal Acquisitions
 - One of the CSA participants has purchased technology that it has made available to the cost-sharing participants.
 - Provides a direct measure of a component of the buy-in.
 - Comparable Acquisitions
 - A third party has acquired the same or similar intangibles.
 - Normal rules on comparability apply.

Direct Acquisition Method

- Calculation of the value of the covered intangibles:

	Market value of the acquired company's assets
<i>Less:</i>	Value of the acquired company's tangible assets
<i>Less:</i>	<u>Value of irrelevant intangibles</u>
<i>Equals:</i>	Value of covered intangibles

Comparable Acquisition Method

- This method typically requires a valuation multiple approach. Examples include price to sales, cash flow, or assets.
- The valuation multiple is then applied to the same base for the participant to estimate a market price, which then is used to calculate a buy-in value as in the Market Capitalization Method discussed below. (The participant may have no market price of its own because it is closely held or is part of a larger entity with combined stock.)
- Advantage: uses third party sales of technology.
- However, as with any valuation multiple approach, scaling can be a problem.
 - Small acquired companies with little sales (perhaps in start-up or high growth phase) can yield skewed multiples.

Acquisition Method: Advantages

- Provides a market valuation for the buy-in.
- This approach does not require separate estimate of useful economic life, the appropriate cost of capital, or the gestation period.

Market Capitalization Method (MCM)

- Theoretically, a company's market value should be the present value of its expected future earnings.
- MCM is a “top down” approach that arrives at the value of the transferred intangibles by netting out everything else.
- One of the biggest challenges is valuing what to exclude.

Market Capitalization Method

- A Commonly Used Formula is:

Total Market Capitalization (Market value of shares outstanding)

+ Liabilities (Book Value)

- Book Value of Assets (Gross or Net Value)

= **Market Value of Firm Intangible Assets**

- Non-compensable Intangibles

= **Value of pre-existing Intangibles**

Market Capitalization Method

- The market value of firm intangible assets is typically allocated across a set of identified intangible assets (compensable and non-compensable).
- If intangible development costs can be identified, the capitalized cost method can be used to calculate the stock values of the identified intangible assets.
- The market value of the firm's assets is then allocated across the intangible stock values on a pro-rata basis.
- The market value of firm intangible assets allocated to the pre-existing intangibles made available to the cost sharing participant(s) is the buy-in value.

Market Capitalization Method

- If a non-compensable intangible can be valued reliably on an absolute basis using a cost capitalization method, its value may simply be subtracted from the market value of firm intangible assets rather than be placed into the intangible allocation base.
- Control Premium
 - The starting value of the analysis, the total market capitalization, represents a minority valuation. Should a control premium be added to convert it into a controlling interest?

Market Capitalization Method

- Advantages
 - The buy-in is easy to calculate as of the start date of the CSA.
 - In theory, the value is determined by investors with unbiased expectations of future performance.
 - MCM results may be compared to foregone profits method results to assess the reliability of internal company projections (inside vs. outside knowledge).
 - This method is less dependent upon separate estimates of the company's cost of capital and the intangible's gestation period and useful economic life.

Market Capitalization Method

- Taxpayer Objections
 - In a bubble market the price may deviate from valuation fundamentals. But perhaps an adjustment can be made.
 - Market valuation can fluctuate significantly from month to month, and such fluctuations may appear to be unrelated to its pre-existing intangibles. One solution may be to use average stock prices instead of a single stock price to smooth out the variation.
 - The allocation base specified may improperly omit certain items. If so, the values of any omitted intangibles will be allocated across the specified intangibles. This problem may be avoided through careful analysis of the taxpayer and its functions.
 - Not clear how periodic adjustment would be administered. But other methods also provide this challenge.